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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,659	09/27/2000	Roger Green Stewart	03424.P028	5955

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James C Scheller Jr  
Blakely Sokoloff Taylor & Zafman LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

KUMAR, SRILAKSHMI K

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/671,659

Applicant(s)

STEWART ET AL.

Examiner

Srilakshmi K. Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) 1-41 and 60-83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Amendment***

The following office action is in response to the Election received on November 28, 2003.

Claims 42-59 have been elected.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 42-45, 47-52 and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (US 6,262,594).

As to independent claim 42, Cheung et al disclose an integrated circuit device comprising; a substrate which includes an integrated circuit (col. 1, lines 6-34); a plurality of functionally symmetric interface pads coupling said IC to a receptor site of an electronic device (Fig. 1, col. 2, lines 9-26), said plurality of interface pads being arranged in said substrate such that said electronic device operates with said substrate such that said electronic device operates with said substrate mounted to the receptor site in any one of a plurality of orientations relative to said receptor site (col. 2, lines 9-48), wherein said plurality of interface pads comprises; a reference voltage pad for receiving a referencing voltage signal; a power supply pad for receiving a power supply signal;

Cheung et al does not disclose a reference voltage pad for receiving a reference voltage signal, but it would have been obvious to one of ordinary skill in the art that integrated circuits

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are known in the art to have a reference voltage pad as it is required in order to operate the integrated circuit.

at least four output pads (Fig. 2, I/O pads as shown); a first configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); a second configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38).

As to independent claims 45 and 52, limitations of claim 42, and further comprising, wherein the integrated circuit includes at least one interface pad which is coupled to said conductive layer to receive a signal from said conductive layer (col. 1, lines 6-34); a selector logic circuit coupled to first and second logic circuits to receive said signal to select between said first function and second function in a way as to only perform either the first or second function (col. 2, lines 27-38).

As to independent claim 56, an integrated circuit (IC) comprising; an instruction data logic coupled to an electrical interface pad, said instruction data logic receiving instruction commands to cause said IC to perform a particular function depending on a received instruction command (col. 2, lines 27-48 and col. 3, lines 10-55); a clocked logic circuit coupled to said electrical interface pad, said clocked logic circuit receiving a clock signal through said electrical interface pad which also provides said instruction commands to said IC. Cheung et al disclose a clock signal in col. 6, lines 61-64. It would have been obvious to one of ordinary skill in the art that clock signal would control a logic circuit as Cheung et al disclose functional modules in col. 6 lines 61-64, which receive the clocked signal, would have been logic circuits.

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As to dependent claim 43, limitations of claim 1, and further comprising, wherein said plurality of interface pads further comprise; a clock pad for receiving a clock signal for controlling clocked operations of said IC (col. 6, lines 61-64); a third configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); a fourth configurable pad which is configurable as one of at least two of the following; an input pad, or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); four position indicator pads (Fig. 2).

As to dependent claim 44, limitations of claim 43, and further comprising, wherein said plurality of interface pads comprise up to 25 pads arranged in an array up to 5x5 and wherein there are four reference voltage pads and four power supply pads and eight output pads. Cheung et al disclose in col. 1, lines 55-57 a 3x3 array. It would have been obvious to one of ordinary skill in the art that Cheung et al would be able to be modified to be a larger array as a it would be advantageous for implementing larger displays.

As to dependent claim 47, limitations of claim 45, and further comprising, wherein said signal is determined by a position of said IC on said receptor substrate (Fig. 1)

As to dependent claim 48, limitations of claim 47, and further comprising, wherein said position determines whether said IC provides said first function or said second function at said position (col. 2, lines 27-63).

As to dependent claim 49, limitations of claim 45, and further comprising, wherein said signal is a programming instruction which selects between said first and said second functions (col. 2, lines 27-63).

As to dependent claims 50 and 54, limitations of claims 45 and 52, and further comprising, wherein said first function is a sensing function and said second function is a presentation function (col. 2, lines 27-63).

As to dependent claim 51, limitations of claim 50, and further comprising, wherein said sensing function senses a touch of a user and said presentation function displays data to said user (col. 2, lines 27-63).

As to dependent claim 55, limitations of claim 52, and further comprising, wherein said IC is capable of performing both said first function and said second function substantially concurrently (col. 2, lines 27-63).

As to dependent claims 57-58, see limitations of claims 42, 45, 52 and 56.

3. Claims 46 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al as applied to claims 45 and 52 above, and further in view of Smith et al (US 5,824,186).

As to dependent claims 46 and 53, limitations of claims 45 and 52, and further comprising, wherein said IC is attached to said receptor substrate through a fluidic self assembly process, and wherein said first set and said second set of interface pads overlap at least partially. Cheung et al do not disclose where the IC is attached to the receptor substrate through a fluidic self assembly process. Smith et al disclose in col. 3, lines 17-32 for attaching IC to the substrate through a fluidic self assembly process. It would have been obvious to one of ordinary skill in the art to incorporate this assembly technique of Smith et al into that of Cheung et al as this method of assembly is compact, low cost, efficient, reliable and requires little maintenance as disclose by Smith et al in col. 3, lines 11-14.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Srilakshmi K. Kumar** whose telephone number is **(703) 306 5575**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras, can be reached at (703) 305-9720.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703 305 9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar  
Examiner  
Art Unit 2675

SKK  
February 7, 2004



DENNIS-DOON CHOW  
PRIMARY EXAMINER